

INTERNATIONAL SEARCH REPORT

International Application No

PCT/EP2004/003660

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 E21B47/01

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 E21B

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 01/77711 A (SCHLUMBERGER CA LTD ;CHEUNG PHILIP (FR); HAYMAN ANDREW (FR); SCHLU) 18 October 2001 (2001-10-18) page 10, line 7-14; claim 1; figure 4 page 6, line 7 - line 35; figures 2,4	1-14
X	US 4 738 812 A (RAYNAL JEAN C) 19 April 1988 (1988-04-19) column 2, line 51 -column 3, line 20; figure 2	1,14
A	US 4 002 063 A (ANGEHRN JORG AUGUST) 11 January 1977 (1977-01-11) figure 5	1,14
A	US 3 566 682 A (WINKLER JOHN H JR) 2 March 1971 (1971-03-02) column 3, line 41 - line 51	1,14



Further documents are listed in the continuation of box C.



Patent family members are listed in annex.

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Date of the actual completion of the international search

13 July 2004

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20/07/2004

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2
NL - 2280 HV Rijswijk
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,
Fax: (+31-70) 340-3016

Authorized officer

Stroemmen, H.

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Information on patent family members

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Patent document cited in search report		Publication date	Patent family member(s)	Publication date
WO 0177711	A	18-10-2001	FR 2807525 A1	12-10-2001
			AU 5041301 A	23-10-2001
			CA 2405079 A1	18-10-2001
			EG 22442 A	26-02-2003
			WO 0177711 A1	18-10-2001
			GB 2384861 A	06-08-2003
			NO 20024771 A	04-12-2002
			US 2003164705 A1	04-09-2003
US 4738812	A	19-04-1988	CA 1219039 A1	10-03-1987
			CA 1227538 A2	29-09-1987
			DE 3340923 A1	17-05-1984
			FR 2536005 A1	18-05-1984
			GB 2130379 A , B	31-05-1984
US 4002063	A	11-01-1977	CA 1048403 A1	13-02-1979
			DE 2635143 A1	07-04-1977
			GB 1558997 A	09-01-1980
US 3566682	A	02-03-1971	NONE	